

Medical students attitude towards pressure ulcer: a cross sectional study from Iran

Mohsen Mortazavi¹, Hossein Rafiei^{2,3}, Asra Nasehi⁴, Mojtaba Jafari⁵,
Marziyeh Jafari⁶, Kazem Hosseinzadeh³

¹ Students Research Committee, Shahrekord University of Medical Sciences, Shahrekord, Iran.

² Social Determinants of Health Research Center, Qazvin University of Medical Sciences, Qazvin, Iran.

³ School of Nursing and Midwifery, Qazvin University of Medical Sciences, Qazvin, Iran.

⁴ Research Center for Health Service Management, Institute For Future studies In Health, Kerman University of Medical Science, Kerman, Iran.

⁵ Instructor, Bam University of Medical Sciences, Bam, Iran..

⁶ Zahedan University of Medical Science, Zahedan, Iran.

Correspondence to: Hossein Rafiei email address: Hosseirn21@gmail.com

Abstract

Background and aim: Knowledge about medical student's attitude toward pressure ulcers prevention and management is very important. However study about medical student's attitude toward pressure ulcers is limited. In present study, we examined attitude of Iranian medical students about pressure ulcers.

Methods: This cross sectional descriptive study conducted between Aprils to July 2015 in Shahrekord, South west of Iran. All medical interns' (semester 8 and higher) were invited to participate. The data were collected, using a questionnaire with items relating to demographic data and an attitude questionnaire. All statistical analyses were performed using SPSS software (v17.0; PASW Statistics).

Results: The mean age of students was 23.2 ± 2.5 . The mean of attitude score were 31.6 ± 5.3 (range 20 to 55). In total, 48% of students reported that in their courses not received any education regards to pressure ulcer prevention, care and treatment. Of 52% that received education, 84.9% reported that their education were not enough. About 70% of students reported that needs to more education with regards to pressure ulcer.

Conclusion: Educating medical students with regard to pressure ulcers first requires a primary assessment of attitude of the topic. Results of present study revealed that Iranian medical students have not positive attitude regards pressure ulcers. Further study in this regards recommended strongly.

Key words: Pressure ulcer, medical education, attitude, wound management

I. Introduction

A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear [1]. Factors that cause pressure ulcers include age, dehydration, medication, being underweight, low level of hemoglobin, friction and shear and some medical conditions that includes Alzheimer's disease, congestive heart failure, chronic obstructive pulmonary disease, cerebral vascular accident, diabetes mellitus, hypertension, deep venous thrombosis, hip fracture, hip surgery, limb paralysis, lower limb oedema, malignancy, malnutrition, osteoporosis, Parkinson's disease, rheumatoid arthritis, incontinence and urinary tract infections [2, 3, 4, 5]. Pressure ulcers still remain a significant problem in many healthcare settings [6]. The rate of pressure ulcer varies widely by clinical setting and the methods that are used for their detection [7]. The prevalence of all grade of pressure ulcer in Europe countries reported about 18 % [8]. The prevalence of pressure ulcers in Iranian hospitals setting is higher and ranges from 5 to 46% [4, 9, 10, 11, 12, 13, 14, 15].

Although pressure ulcer prevention requires a multidisciplinary approach, however the prevention and management of pressure ulcers has been predominantly viewed as the domain of nurses [16]. They are responsible for the appropriate identification of patients at risk, implementing the appropriate prevention strategies, and, if pressure ulcer occurs, accurate staging of the pressure ulcer and implementation of the treatment plan [16]. Although there are several studies that measure nurses and nursing students knowledge and attitude of pressure ulcers there is a paucity of literature about physician and medical student's knowledge of pressure ulcers. Educating medical students with regard to pressure ulcers first requires a primary assessment of attitude of the topic. This study aimed to fulfill this need.

II. Methods

This cross sectional descriptive study conducted between April to July 2015 in Shahrekord, South west of Iran. Study received permission from the deputy of research and the ethics board of Shahrekord University of Medical Science. All medical interns' (semester 8 and higher) were invited to participate. In Iran, duration of medical education programs is 7 years. The students were approached in classroom settings during regular university hours. They were informed in their own language both verbally in writing about the study, its purpose and method, and were also informed that participation was voluntary. The questionnaire was anonymous in order to ensure confidentiality, so that no student could be identified in the data or in the final report. Time to complete the questionnaire was estimated to be 40 minutes. The data were collected, using a questionnaire with items relating to demographic data and an attitude questionnaire [17]. For determining the attitude towards pressure ulcer prevention the summation of a five point Likert type scale, with statements ranging from strongly agree to strongly disagree, was used. Strongly agree rendered a score of five in positive statements and one in negative statements. The maximum sum was 55 and the minimum was 11. For translation of questionnaire from English into Farsi, the standard forward-backward procedure was applied. Translation of the items and the response categories was independently performed by two professional translators and then temporary versions were provided. Later they were back translated into English and after a careful cultural adaptation, the final versions were provided. Translated questionnaire went through pilot testing. A factor analysis (rotated component matrix) on the questionnaire was done to examine the context validity of the questionnaire. The validity of questioner has been assessed through a content validity discussion. Scholars of statistics and nurses have reviewed the content of the questioner. To reassess the reliability of translated questioner alpha coefficients of internal consistency and 3 weeks test-retest coefficients ($n = 20$) of stability were computed. The alpha coefficient for questionnaire was 0.81. The 3 weeks test-retest coefficient of stability for questionnaire was 0.75. So totally, translated scale presented an acceptable reliability.

All statistical analyses were performed using SPSS software (v17.0; PASW Statistics) with using descriptive statistic (mean and standard deviation), Pierson correlation test, one sample t test and one way ANOVA. Variable was considered to be statistically significant if $P < 0.05$.

III. Results

The mean age of students was 23.2 ± 2.5 . Of them, 79 (73.2%) were female and the rest were male. Mean of educational semester were 10.1 ± 2.2 (rang between 8 to 24 year). In total, 58% of students reported that have previous history of caring of patients with pressure ulcers. In total, 48% of students reported that in their courses not received any education regards to pressure ulcer prevention, care and treatment. Of 52% that received education, 84.9% reported that their education were not enough. About 94% of students reported that have not experience of participation in any workshop related to pressure ulcer. About 70% of students reported that needs to more education with regards to pressure ulcer. In total, 84% of students reported that prevention, care and treatment of pressure ulcer not are duty of nurses. The mean of attitude score were 31.6 ± 5.3 (range 20 to 55). Students responses to questioner items presented in table 1. Mean score of attitude were similar between male and female students (31.0 vs 31.7) ($p=0.405$). Mean score of attitude were similar between students who have experience of caring of patients with pressure ulcer and who have not (31.3 vs 32.0) ($p=0.581$). Mean score of attitude were similar between students who educated about pressure ulcer and who not (31.6 vs 31.5) ($p=0.981$).

IV. Discussion

Pressure ulcers are common problem in all hospital settings and cause a large amount of emotional and physical stress for patients and their relatives [2, 18, 19, 20]. A high incidence of pressure ulcers have been considered to be a negative care outcome that markedly affect patients' quality of life, morbidity and mortality [2, 21]. The aim of present study was to examine medical student's attitude toward pressure ulcers. According to finding of present study, Iranian medical student have not positive attitude toward pressure ulcer. Previous study that examined medical students' attitude toward pressure ulcers is limited to one study. In this study that conducted in 2012, Suen et al., examined attitude of 21 internal medicine interns and 21 internal medicine residents toward pressure ulcers with using similar questionnaire [22]. The mean of attitude score in suen et al., study were 43.8 and 38.8 for intern and residents respectively that is better than mean score of students in present study (31.6). Overall, internal medicine interns and residents in Suen et al., study showed a favorable attitude toward pressure ulcer prevention that is different from finding of present study. This difference could be related to different in educational systems. In our country, medical student usually not received enough education regards pressure ulcers. In other hand, prevention and management of pressure ulcer is duty of nurses and most education are focused on nurses and nursing stunts and medical students usually received more attention in this regards. Our search also showed that study about attitude of nursing students about pressure ulcers also limited to one study. In this study that preformed in Italy, Simonetti et al., examined nursing students'

attitude on pressure ulcer prevention evidence-based guidelines. Most of the participants in Simonetti et al., reported high attitude pressure ulcers [6]. With regards to medical student's knowledge about pressure ulcers, our search also showed one study. In this study that conducted in 2012, Levine et al., examined medical residents knowledge about pressure ulcers [23]. For achieving this aim, they used two tools: the Pieper Pressure Ulcer Knowledge Tool (PPUKT) and a wound photograph test. Most participants in Levine et al., study showed low level of knowledge about pressure ulcers. They concluded that pressure ulcer content, including prevention, identification, staging, and treatment, needs to be included in physician education programs. In our country Iran, we not found similar article. However in previous study we examined nursing students' knowledge about pressure ulcers. In this study we examined knowledge of all final-year bachelors nursing students with using PPUKT. Results of our study showed that nursing students had insufficient knowledge of pressure ulcers prevention, classification and evaluation [24].

V. Conclusion

Study about medical students attitude regards pressure ulcers is very limited. Results of present study revealed that Iranian medical students have not positive attitude regards pressure ulcers. Medical education systems of undergraduate medical students should be aware and consider this in your planning and curriculum development. Further study in this regards recommended strongly. Also study about medical student's knowledge about pressure ulcers and its relationship with their attitude recommended for future studies.

Limitation

This study has some important limitations. As this study was based on a convenience sample and participation was voluntary, there might have been a selection bias that affected the possibility to generalize the results to all students. Furthermore, the use of self- report questionnaires may have led to an overestimation of some of the findings due to variance, which is common in different methods.

References

- [1] 1 - National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers: Quick Reference Guide. Emily Haesler (Ed.). Cambridge Media: Perth, Australia; 2014
- [2] 2 - Iranmanesh S, Rafiei H, Sabzevari S. Relationship between Braden scale score and pressure ulcer development in patients admitted in trauma intensive care unit. *Int Wound J*. 2012 Jun;9(3):248-52.
- [3] 3 - Tayyib N, Coyer F, Lewis P. Saudi Arabian adult intensive care unit pressure ulcer incidence and risk factors: a prospective cohort study. *Int Wound J*. 2015 Feb 9.
- [4] 4 - Shokati Ahmadabad M, Rafiei H, Alipoor Heydari M, Bokharai M, Amiri M. Incidence of pressure ulcer in patients who admitted to open heart cardiac surgery intensive care unit. *Int J Epidemiol Res*. 2016.
- [5] 5 - Margolis DJ, Knauss J, Bilker W, Baumgarten M. Medical conditions as risk factors for pressure ulcers in an outpatient setting. *Age Ageing*. 2003 May;32(3):259-64.
- [6] 6 - Simonetti V, Comparcini D, Flacco ME, Di Giovanni P, Cicolini G. Nursing students' knowledge and attitude on pressure ulcer prevention evidence-based guidelines: a multicenter cross-sectional study. *Nurse Educ Today*. 2015;35(4):573-9.
- [7] 7 - Akbari Sari A, Doshmanghir L, Neghaban Z, Ghiasipour M, Beheshtizavareh Z. Rate of Pressure Ulcers in Intensive Units and General Wards of Iranian Hospitals and Methods for Their Detection. *Iran J Public Health*. 2014 Jun;43(6):787-92.
- [8] 8 - Vanderwee K, Clark M, Dealey C, Gunningberg L, Defloor T. Pressure ulcer prevalence in Europe: a pilot study. *J Eval Clin Pract*. 2007;13(2):227-35.
- [9] 9 - Madarshahian F, Abadi H, Hossein Zadeh K, Khazai S, Helal Birjandi M. Incidence of pressure ulcer in educational hospitals of Birjand medical university. *Modern Care Journal*. 2005; 2(1): 28-31.
- [10] 10 - Bolourchifard F, Abdolrahimi M, Yaghmaei F, Akbarzadeh Baghban AR. Incidence of pressure ulcer and related risk factors in orthopaedic wards. *J Nurs Midwifery Shahid Beheshti*. 2009; (19):67:23-29.
- [11] 11 - Ahmadi Nejad M, Rafiei H. Pressure ulcer incidence in intensive care unit patients in Bamonar Hospital, Kerman. *J Iran Soc Anaesthesiol Intensive Care*. 2011; 57: 10-16.
- [12] 12 - Sozani A, Khosravi A, Pourheydari M, Montazeri A. Using Braden and Waterlow scale to predict pressure ulcers: a comparative study. *J Shahrood Med Uni*. 2011; 5: 27-33.
- [13] 12 - Jamand T, Akaberian S, Khoramroodi R, Pooladi S, Hajivandi A, Bagherzadeh R, et al. Assessment of risk factors associated with bedsores in patients admitted to Fatemeh Zahra and Salman Farsi Hospitals in Boushehr by using the braden indices (2007-2008). *Iranian South Med J*. 2011; 15(3): 233-40.
- [14] 14 - Mohammadi N, Ghaseminezhad ST, Seyedalshohadaei M, Haghani H, Yekaninezhad MS. The Role of Hemodynamic Status and the Level of Oxygenation in the Development of Pressure Ulcer in Mechanically Ventilated Patients. *Iran Journal of Nursing*. 2013; 25(80): 56-64.
- [15] 15 - Baghaei R, Salmami azar N, Feizi A, Fereidooni J. Pressure ulcer frequency and risk factors based on Norton scale at education and treatment centers in Urmia University of medical science. *Journal of Urmia Nursing and Midwifery Faculty*. 2013; 11(2):21-25.
- [16] 16 - Cox J, Roche Sh, Gandhi N. Critical care physicians: attitudes, beliefs, and knowledge about pressure ulcers. *Adv Skin Wound Care*. 2013;26:168-76.
- [17] 17 - Moore Z, Price P. Nurses' attitudes, behaviours and perceived barriers towards pressure ulcer prevention. *J Clin Nurs*. 2004;13(8):942-51.
- [18] 18 - Iranmanesh S, Tafti AA, Rafiei H, Dehghan M, Razban F. Orthopaedic nurses' knowledge about pressure ulcers in Iran: a cross-sectional study. *J Wound Care*. 2013 Mar;22(3):138-40, 142-3.
- [19] 19 - Iranmanesh S, Rafiei H, Foroogh Ameri G. Critical care nurses' knowledge about pressure ulcer in southeast of Iran. *Int Wound J*. 2011 Oct;8(5):459-64.

- [20] 20 – Rafiei H, Abdar ME, Iranmanesh S, Lalegani H, Safdari A, Hassanpoor Dehkordi A. Knowledge about pressure ulcer prevention, classification and management: A survey of registered nurses working with trauma patients in the emergency department. *International Journal of Orthopaedic and Trauma Nursing*. 2014; 18(3): 135–42.
- [21] 21 - Källman U, Suserud BO. Knowledge, attitudes and practice among nursing staff concerning pressure ulcer prevention and treatment-a survey in a Swedish healthcare setting. *Scand J Caring Sci*. 2009 Jun;23(2):334-41.
- [22] 22 - Suen W, Parker VA, Harney L, Nevin S, Jansen J, Alexander L, Berlowitz D. Internal medicine interns' and residents' pressure ulcer prevention and assessment attitudes and abilities: results of an exploratory study . *Ostomy Wound Manage*. 2012 Apr;58(4):28-35.
- [23] 23 - Levine JM, Ayello EA, Zulkowski KM, Fogel J. Pressure ulcer knowledge in medical residents: an opportunity for improvement. *Adv Skin Wound Care*. 2012 Mar;25(3):115-7.
- [24] 24 - Rafiei H, Mehralian H, Abdar ME, Madadkar T. Pressure ulcers: how much do nursing students really know? *Br J Nurs*. 2015 Mar 26-Apr 8;24(6):S12, S14-7.

Tables

Table 1: students' response to questionnaire items

Items	strongly agree	agree	not	strongly disagree	Disagree
1) All patients are at potential risk of developing pressure ulcers	18(17.1%)	35(33.3%)	13(12.4%)	38(36.2%)	1(1%)
2) Pressure ulcer prevention is time-consuming for me to carry out	4(3.8%)	15(14.3%)	24(22.9%)	55(52.4%)	7(6.7%)
3) In my opinion, patients tend not to get as many pressure ulcers nowadays	4(3.8%)	12(11.4%)	18(17.1%)	56(53.3%)	15(14.3%)
4) I do not need to concern myself with pressure ulcer prevention in my practice	2(1.9%)	6(5.8%)	5(4.8%)	61(57.1%)	30(28.8%)
5) Pressure ulcer treatment is a greater priority than pressure ulcer prevention	62(59.6%)	27(26%)	6(5.8%)	7(6.7%)	2(1.9%)
6) Continuous assessment of patients will give an accurate account of their pressure ulcer risk	19(18.3%)	41(39.4%)	32(30.8%)	11(10.6%)	1(1%)
7) Most pressure ulcers can be avoided	26(25%)	59(56.7%)	16(15.4%)	3(2.9%)	0(0)
8) I am less interested in pressure ulcer prevention than other aspects of care	6(5.8%)	17(16.3%)	29(27.9%)	45(43.3%)	7(6.7%)
9) My clinical judgment is better than any pressure ulcer risk assessment tool available to me	5(4.8%)	35(33.7%)	47(45.2%)	14(13.5%)	3(2.9%)
10) In comparison with other area of care, pressure ulcer prevention is a low priority for me	6(5.8%)	16(15.4%)	12(11.5%)	64(61.5%)	6(5.8%)
11) Pressure ulcer risk assessment should be regularly carried out on all patients during their stay in hospital	36(34.6%)	56(53.8%)	8(7.7%)	2(1.9%)	2(1.9%)